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Properties of the F2-layer critical frequency median in the nocturnal subauroral ionosphere during low and moderate solar activity

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Abstract

© 2016, Pleiades Publishing, Ltd.Based on an analysis of data from the European ionospheric stations at subauroral latitudes, it has been found that the main ionospheric trough (MIT) is not characteristic for the monthly median of the F2-layer critical frequency (foF2), at least for low and moderate solar activity. In order to explain this effect, the properties of foF2 in the nocturnal subauroral ionosphere have been additionally studied for low geomagnetic activity, when the MIT localization is known quite reliably. It has been found that at low and moderate solar activity during night hours in winter, the foF2 data from ionospheric stations are often absent in the MIT area. For this reason, a model of the foF2 monthly median, which was constructed from the remaining data of these stations, contains no MIT or a very weakly pronounced MIT.

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